

Is Sustainability A Fact?

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I followed Matthew Ally's bold invitation and in my mind, I joined him and the Apollo 8 astronauts as they were witnessing the 'Earthrise' for the first time. He was right – the mere imagination of this image brings up a feeling that we may all too often forget when we try to formulate the ethical foundations, the precise definition or the scientific basis of the pursuit of sustainability. That feeling was, perhaps, as Dr. Ally put it, an experience of sustainability, and historically, as he describes, it was a catalyst of our ethical reasoning that sustainability is a value and the scientific understanding that sustainability is a fact.

We may not realize how much we need these experiences. Of course, we do not need to travel to space to have them, to realize with wonder that there is nothing inevitable or ordinary or obvious about the stability of the earth system, the living planet, Gaia - whatever you wish to call it. This prolonged and relatively stable period in its history has probably made possible the development of human civilization, and some version of the anthropic principle would suggest that it must be that way, because otherwise there would be no one to notice it. But that isn't really the point. All around us, nature is full of the complex self-regulating interactions and feedbacks that help the earth system sustain herself, that show us that sustainability is a possible, yet difficult and precious feat. In that sense, this sustainability is indeed nothing short of a remarkable, wonderful and under-appreciated fact. And our society may well need to cultivate this experience if it is to do better at appreciating and protecting it.

Especially because this is a volume about science and religion, the natural question to ask here is whether the cultivation of these 'experiences of sustainability' is the domain and responsibility of religion. And if it is, has it played its role adequately? And could it be that the demarcation of the domains of facts, values and experiences to science, ethics and religion can become the secret to their peaceful neighborly coexistence?

It would certainly seem that many of our religious rituals strive to draw our attention to natural cycles and patterns and forces, through parable or symbol or worship, relics of a time when our dependency on nature was so much more direct and raw and harder to ignore, and as such, they can help maintain the essence of that experience even today. But of course, nature as such is not the primary focus of the dominant religions of our times. Religions are at least as concerned about the nature of man as they are about the man of nature. And actually, so should an adequate discussion of the meaning of sustainability: the sustainability of human development.

Peer closely into the workings of all these complex regulating feedbacks, the guardians of this celebrated ecological stability. Among them, you may also notice those that, for example, maintain the balance, carefully evolved over millennia, between the populations of three particular species: the Anopheles mosquito, *Homo*

sapiens and five species of *Plasmodium* parasites (the parasites that cause Malaria). By killing millions of human babies every year, these regulating mechanisms and others like them have always done, and in some places still do, their part in maintaining the human population in the precise and miserable Malthusian equilibrium that is but one aspect of the overall stability of the earth system.

Sustainability is surely not only about maintaining the balance of the earth system, but also about maintaining the (rather unnatural) reduction in human suffering and the development of human civilization. As a value, this sustainability of *development* needs no justification, but it is far from being a fact. We do not yet know for sure that it will be possible to preserve this achievement, let alone spread it to the entire world, in the decades and centuries to come: we may not even be aware of processes already in motion that this achievement has triggered and are undermining its future.

And is this sustainability of development an experience? We certainly experience it in our own lives everyday, but maybe we ceased to appreciate it. That we fortunate ones will never know malarial fevers or hunger or lose our shelter to a storm is as miraculous as nature's own intricate balance, and as under-appreciated. There may be no starker indications of how shallow our experience of this fact has become than the lack of passion we display, as a society and as individuals, for spreading it to those still deprived of it.

So it is the sustainability of human *development* that is at stake. Whereas Dr. Ally beautifully argues that the sustainability of nature is an ethical question but a demonstrated fact, I would argue that the sustainability of human development is an un-arguable value but a doubtful fact. But just like it, it is neglected and forgotten as experience.

Ultimately, it is superficial to separate, as I did, natural from human development. Of course, on the practical side, the sustainability of human development will probably depend on the protection of the ecological balance. But more fundamentally, why should we think of human development as distinct from the earth system's own marvelous journey? The appearance of consciousness, the evolution of the human mind, the mind that at once powers over nature, admires it and strives to protect it from itself, those are themselves incredible stages in the Earth system's own dynamical development. The earth system is not in some natural equilibrium that is threatened by an alien human species. The human species is part and parcel of it, and through it, the Earth system itself has become self-conscious, and is *consciously* trying to transform itself. And Humanity's success or failure in ensuring that this incredible stage in the Earth system's life turns into a prolonged epoch (its physical aspect is already with the name *anthropocene*) and not into self-annihilating, transient perturbation will itself also be a part of the Earth's system dynamical evolution. This evolution might be in one its most rapid and dramatic periods ever. And if sustainable development does become a fact, it will mean that this evolution has produced its finest product to date: a species that transcends its nature, by nature.